

REMARKS

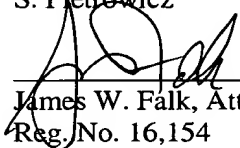
Figures 3-5 and 7 of the drawings are being amended to maintain consistency with the specification and to better clarify that which applicant regards as the invention. Most significantly, Figures 4 and 5 are amended to clarify that under applicant's invention, the central server-to-PSTN interface is a *data* interface and that the central server connects to the PSTN for the purpose of transferring generic data messages, either through an ISDN/SMDI interface *or* through an CSS/SS7 interface. (see Specification page 9, lines 6-14, 17-20, and 25-36). Figure 7 is amended to clarify that in addition to having a data interface to the PSTN, the server may also have a voice oriented interface. (see specification page 39, lines 9-30). Corrected copies of Figures 3-5 and 7 are enclosed for the Examiner's review and approval.

Claims 1-7, 9-10, 12, 15, 17-20, 25, 27, 29 - 31, 35, and 36 have been amended to correct typographical errors and to improve readability. Attached hereto is a marked-up version of these claims showing the changes. The attachment is entitled, "Version with Markings to Show Changes Made." Claims 11, 13, 14, 16, 21-24, 28, and 32-34 have been canceled to expedite the prosecution of this application. New claims 37- 50 have been added to further protect applicant's invention.

Favorable consideration and allowance of applicant's claims as now presented are respectfully requested. The Examiner is invited to telephone applicant's attorney at the number given below if the Examiner deems it would expedite the prosecution of this application.

Respectively submitted,

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Attachments:

Marked-up Version of Amended Claims
Amended Figures 3-5 and 7

VERSION WITH MARKINGS TO SHOW CHANGES MADE

1. (amended) A method for delivering ~~generic~~ data from a service application ~~residing on a central server~~ to a subscriber device by means of a Public Switched Telephone Network (PSTN) wherein the PSTN consists of a CCS/SS7 signaling network, a transport network, comprising an originating ~~Stored Program Controlled System (SPCS), node and~~ a terminating SPCS, and a Signaling Transfer Point (STP) ~~node~~, wherein the ~~central server service application~~ interfaces the PSTN through the originating SPCS node and the subscriber device interfaces the PSTN through the terminating SPCS node, and wherein the PSTN has no embedded knowledge of the ~~generic data or service application residing on the central server~~, said method comprising the steps of:

~~defining~~ creating a request message at the ~~central server service application~~ wherein the request message ~~contains~~ comprises the ~~generic~~ data and data delivery instructions specified by the service application instructing the terminating SPCS on how to deliver the ~~generic data to the subscriber device~~;

~~addressing the request message based on the subscriber's PSTN address~~;

transporting the request message from the central server to the PSTN over the originating SPCS node – ~~central server service application~~ interface;

~~transporting~~ routing the request message from the originating SPCS node to the STP terminating node via a Transaction Capabilities Application Part (TCAP) message;

~~routing the request message based on the subscriber PSTN address to the terminating SPCS~~;

~~extracting the generic data and data delivery instructions from the request message~~;

transporting the ~~generic~~ data from the terminating SPCS node to the subscriber device over the terminating SPCS node – subscriber device interface based on the data delivery instructions ~~specified by the service application~~;

defining a response message at the terminating SPCS node wherein the response message ~~contains~~ comprises status data indicating the status of the delivery of the generic data to the subscriber device; and

~~transporting~~ routing the response message from the terminating SPCS node to the originating SPCS through the STP via a TCAP message service application;

~~transporting the response message to the central server over the originating SPCS central server interface~~; and

~~delivering the status data to the service application.~~

2. (amended) The method of claim 1 wherein the originating SPCS node - ~~central server service application~~ interface is a Simplified Message Desk Interface.

3. (amended) The method of claim 1 wherein the originating SPCS node - central server service application interface is a Non-call Associated Signaling Integrated Services Digital Network interface.

4. (amended) The method of claim 1 wherein the terminating SPCS node - subscriber device interface is a GR-30-CORE interface.

5. (amended) The method of claim 1 wherein the terminating SPCS node - subscriber device interface is a Non-call Associated Signaling Integrated Services Digital Network interface.

6. (amended) The method of claim 1 wherein the terminating SPCS node - subscriber device interface is a Digital Subscriber Loop interface.

7. (amended) The method of claim 1 wherein the step of routing the ~~generic~~ request message is based on a PSTN address of the subscriber device and includes the steps of:
~~determining if the NPA-NXX of the subscriber address has been ported;~~
~~querying a Local Number Portability Database for obtaining a Local Routing Number~~
if the NPA-NXX address has been ported; and
routing the request message based on the Local Routing Number if the subscriber address has been ported.

9. (amended) The method of claim 1 wherein transporting the ~~generic~~ data to the subscriber device occurs regardless of whether the subscriber device is off-hook or on-hook.

10. (amended) The method of claim 1 wherein transporting the ~~generic~~ data to the subscriber device does not require subscriber interaction.

12. (amended) The method of claim 1 wherein the PSTN further comprises a packet switch ~~central server~~ and the service application interfaces the PSTN through the STP packet switch, wherein the step of transporting the request message from the ~~central server service application~~ to the PSTN occurs through the STP packet switch - central server interface, and wherein the step of transporting the response message from the ~~STP to the originating SPCS PSTN~~ to the ~~central server service application~~ occurs from the STP packet switch to the central server through the STP - central server interface.

15. (amended) The method of claim 1 wherein the step of transporting the ~~generic~~ data to the subscriber device further includes the step of over-riding vertical services defined for the terminating node - subscriber device interface based on the data delivery instructions

17. (amended) The method of claim ~~16~~ 31 wherein the list of subscriber devices specified in the request message is specified as a range of ~~PSTN~~ addresses.

18. (amended) The method of claim ~~16~~ 31 wherein the list of subscriber devices specified in the request message is specified as all numbers within a NPA-NXX available on the ~~terminating SPCS node~~.

19. (amended) The method of claim ~~16~~ 31 wherein transporting the ~~generic~~ data to each subscriber device occurs regardless of whether the subscriber ~~interface device~~ is off-hook or on-hook.

20. (amended) The method of claim ~~16~~ 31 wherein transporting the ~~generic~~ data to each subscriber device does not require subscriber interaction.

25. (amended) The method of claim ~~16~~ 31 wherein the plurality of subscriber devices are served by a plurality of ~~terminating SPCS's nodes~~, said method further comprising the steps of:

~~separating the subscriber devices based on their terminating SPCS;~~

defining a plurality of request messages at the central server, one request message per ~~terminating SPCS node~~, wherein the each request message ~~contains~~ comprises the ~~generic~~ data and data delivery instructions whereby the delivery instructions specify to the ~~terminating SPCS corresponding node~~ a list of possible subscriber devices served by the ~~SPCS node~~ that should receive the ~~generic~~ data ~~and the means by which the generic data should be delivered to these subscriber devices;~~

~~addressing each request message with a PSTN address of one of the subscriber devices specified in its corresponding list of subscriber devices;~~

~~transporting routing each request message to its terminating SPCS node a PSTN address of one of the subscriber devices specified in its corresponding list of subscriber devices; and~~

transporting, at each ~~terminating SPCS node~~, the generic data ~~based on the data delivery instructions~~ to the corresponding list of subscriber devices based on the data delivery instructions.

27. (amended) The method of claim ~~16~~ 31 further including the steps of:

~~recording at the terminating SPCS the list of individual subscriber devices to which the terminating SPCS could not deliver the generic data because said subscriber devices had been ported;~~

defining at the node a response message ~~at the terminating SPCS~~ containing comprising the individual subscriber devices to which the node could not deliver the data because said subscriber devices had been ported that did not receive the generic data;

transporting the response message from the ~~terminating SPCS node~~ to the originating SPCS through the STP via a TCAP message central server;

~~transporting the response message to the central server over the originating SPCS-central server interface;~~

defining a plurality of request messages at the central server, ~~one for each to cover the~~ subscriber devices specified in the response message, wherein ~~the each~~ request message contains comprises the generic data and data delivery instructions;

~~addressing the plurality of request messages based on the PSTN address of each subscriber address; and~~

delivering the plurality of ~~generic~~ request messages to the nodes serving the ported subscriber devices.

29. (amended) A method for delivering generic data from a central server to a subscriber device by means of ~~an originating a Stored Program Controlled System (SPCS) PSTN based node, a terminating SPCS, and a packet router~~, wherein the ~~originating SPCS, terminating SPCS, and packet router have~~ has no embedded knowledge of the generic data, said method comprising the steps of:

defining a request message at the central server wherein the request message ~~contains~~ comprises the generic data and data delivery instructions instructing the ~~terminating SPCS node~~ on how to deliver the generic data to the subscriber device;

transporting the request message from the central server to the ~~originating SPCS node, to the packet router, and to the terminating SPCS~~ without establishing a call; and

delivering the generic data to the subscriber device based on the data delivery instructions.

30. (amended) The method of claim 29 further including the steps of:
recording in a response message the status of the delivery of the ~~generic~~ data to the subscriber; and
transporting the response message ~~from the terminating SPCS to the packet router to the originating SPCS~~ to the central server.

31. (amended) A method for broadcasting ~~generic~~ data from a central server to a plurality of subscriber devices by means of an ~~originating Stored Program Controlled System (SPCS), a terminating SPCS, and a packet router, PSTN based node~~ wherein the ~~originating SPCS node, terminating SPCS, and packet router have~~ has no embedded knowledge of the generic data, said method comprising the steps of:

defining a request message at the central server wherein the request message ~~contains~~ comprises the ~~generic~~ data and data delivery instructions, whereby the delivery instructions specify to the ~~terminating SPCS node~~ a list of possible subscriber devices served by the ~~SPCS node~~ that should receive the ~~generic~~ data ~~and the means by which the generic data should be delivered to these subscriber devices;~~

~~transporting routing~~ the request message from the central server to the ~~originating SPCS node, to the packet router, and to the terminating SPCS~~ without establishing a call; and

delivering the ~~generic~~ data, based on the delivery instructions, to the list of subscriber devices;

~~recording in a response message the status of the delivery of the generic data to the subscribers; and~~

~~transporting the response message from the terminating SPCS to the packet router to the originating SPCS to the central server.~~

35. (amended) A method for enhancing Unified Messaging Services ~~comprising wherein~~ a multi-functional server ~~interfaced~~ interfaces to both a PSTN and an Internet; and a subscriber device ~~interfaced~~ interfaces to the PSTN through a ~~terminating SPCS switch~~, and wherein the multi-functional server receives ~~voice and fax subscriber~~ messages from the PSTN and ~~email, faxes, pages and Internet-based voicemail messages from the Internet~~, said method comprising the steps of:

defining a request message at the multi-functional server ~~upon receiving a new PSTN or Internet based message~~, wherein the request message ~~contains~~ comprises data indicating both concerning the type and number of subscriber messages received from the PSTN and ISDN Internet based messages ~~waiting~~, and wherein the request message further contains

comprises delivery instructions instructing the ~~terminating~~ SPCS switch on how to deliver the data to the subscriber device;

transporting the request message from the multi-functional server to the ~~terminating~~ SPCS switch without establishing a call; and

delivering the data to the subscriber device based on the data delivery instructions.

36. (amended) The method of claim 35 wherein a commercial Web servers are is interfaced to the Internet, said method further comprising the steps of:

pushing data from the commercial Web servers to the multi-functional server; and

wherein the defined request message ~~contains~~ comprises the data pushed from the commercial Web Server.